

Serial No.: 10/791,974

Art Unit: 3761

Please amend the present application as follows:

CLAIMS

The following is a copy of Applicants' claims that identifies language being added with underlining ("___") and language being deleted with strikethrough ("—"), as is applicable:

1. – 28. (Canceled)

29. (Not Entered)

30. – 54. (Canceled)

55. (Withdrawn) A kit for filling an applicator having a jetting orifice with a bioactive composition for cutaneous delivery through ejection from said orifice to a subject, the kit comprising:

a container which contains the bioactive substance, with the container having an interface to fluidically couple the container with the applicator to deliver said composition to the orifice; and

a dermal patch for placement on the subject to receive said composition from said orifice when spaced a selected distance therefrom.

56. (Withdrawn) A kit according to claim 55, further comprising instructions for dispensing the bioactive composition from the applicator on to the patch.

57. (Withdrawn) A kit according to claim 55, further comprising a bioactive composition in the container.

58. (Withdrawn) A kit according to claim 55, further comprising plural containers.

Serial No.: 10/791,974
Art Unit: 3761

59. (Withdrawn) A kit according to claim 58, wherein at least two of the plural containers contain the same bioactive composition.
60. (Withdrawn) A kit according to claim 58, wherein at least two of the plural containers contain different bioactive compositions.
61. (Withdrawn) A kit according to claim 60, wherein said different bioactive compositions combine after ejection to produce a bioactive effect.
62. (Withdrawn) A kit according to claim 60, wherein at least one of the bioactive compositions is a penetration enhancer that improves cutaneous penetration of another bioactive composition.
63. (Withdrawn) A kit according to claim 62, wherein the penetration enhancer is dimethyl sulfoxide (DMSO).
64. (Withdrawn) A kit according to claim 58, wherein at least one of the plural containers contains a bioactive composition in powder form.
65. (Withdrawn) A kit according to claim 55, wherein the bioactive composition is suitable for cutaneous administration.
66. (Withdrawn) A kit according to claim 55, wherein the bioactive composition is suitable for transdermal administration.
67. (Withdrawn) A kit according to claim 55, wherein the bioactive composition is a pharmaceutical composition.
68. (Withdrawn) A kit according to claim 55, wherein said bioactive composition is capable of transdermal flux.

Serial No.: 10/791,974
Art Unit: 3761

69. (Withdrawn) A kit according to claim 55, wherein the bioactive composition is a nitrate, an anti-hypertensive drug, an analgesic, a hormone or an analogue thereof, or nicotine or an analogue thereof.
70. (Withdrawn) A kit according to claim 69, wherein the nitrate is nitroglycerin.
71. (Withdrawn) A kit according to claim 69, wherein the anti-hypertensive drug is clonidine or minoxidil, the analgesic is fentanyl, or the hormone is estrogen or testosterone.
72. (Withdrawn) A kit according to claim 55, wherein the patch has an adhesive portion for application to the subject.
73. (Withdrawn) A kit according to claim 72, further comprising a removable release sheet overlying the adhesive portion during shipment.
74. (Withdrawn) A kit according to claim 55, wherein the patch has a replaceably removable moisture impervious cover layer.
75. (Withdrawn) A kit according to claim 55 for filling an applicator having a programmable controller which controls said ejection from said orifice in response to programming instructions, and the kit further contains said programming instructions.
76. (Withdrawn) A kit according to claim 75 for filling an applicator having an interface, wherein said programming instructions are stored on a memory storage device which is received by said interface to supply said instructions to said controller.
77. (Withdrawn) A kit according to claim 76, wherein said memory storage device is supported by said container.

Serial No.: 10/791,974
Art Unit: 3761

78. (Withdrawn) A kit according to claim 76, wherein said interface comprises a slot, and said memory storage device is received within said slot.

79. (Withdrawn) A kit according to claim 55, wherein said container is refillable with said bioactive composition.

80. (Withdrawn) A kit for administering a bioactive composition to a subject, the kit comprising:

a jet dispenser comprising an orifice, and a container which delivers the bioactive composition to said orifice for ejection therethrough; and
a retainer for retaining the dispenser in contact with skin of a subject.

81. (Withdrawn) A kit according to claim 80, further comprising a controller which controls said ejection through the orifice in response to information about a physiological condition of the subject

82. (Withdrawn) A kit according to claim 82, further comprising a sensor which senses a physiological condition of the subject, and provides information about said condition to the controller.

83. (Currently Amended) A method of administering a bioactive composition to a subject, the method comprising:

applying to a cutaneous surface of the subject a jet dispenser comprising a container holding the bioactive composition;

dispensing the bioactive composition in droplets from the dispenser through at least one orifice toward the cutaneous surface, wherein each bioactive composition droplet is less than or equal to 100 picoliters; and

retaining the bioactive composition in prolonged contact with the cutaneous surface.

Serial No.: 10/791,974
Art Unit: 3761

84. (Previously Presented) A method according to claim 83, wherein retaining the bioactive composition in prolonged contact with the cutaneous surface comprises dispensing the bioactive composition on to a dermal patch that is retained on the cutaneous surface.

85. (Previously Presented) A method according to claim 84, wherein the dermal patch is an adhesive dermal patch that is applied to the cutaneous surface prior to dispensing the bioactive composition from the dispenser.

86. (Previously Presented) A method according to claim 85, wherein the dermal patch comprises a selectively removable cover that is removed prior to dispensing the bioactive composition into the patch, and is subsequently replaced on the patch to improve retention of the bioactive composition in the patch.

87. (Previously Presented) A method according to claim 83, wherein retaining the bioactive composition in prolonged contact with the cutaneous surface comprises providing a seal between the dispenser and cutaneous surface, to form a substantially sealed chamber between the dispenser and the cutaneous surface, and retaining the dispenser in prolonged contact with the seal.

88. (Previously Presented) A method according to claim 83, further comprising repeatedly dispensing the bioactive composition toward the cutaneous surface.

89. (Previously Presented) A method according to 88, further comprising resupplying the dispenser with the bioactive substance.

90. (Previously Presented) A method according to claim 89, wherein resupplying the dispenser comprises replacing a container in the dispenser.

Serial No.: 10/791,974

Art Unit: 3761

91. (Currently Amended) A method of administering a bioactive composition to a subject, the method comprising:
applying a cutaneous patch to skin of the subject; and
dispensing the bioactive composition from a ~~jet~~ an inkjet dispenser by ejection through an orifice to the patch ~~using inkjet technology~~.
92. (Previously Presented) A method according to claim 91, further comprising dispensing the bioactive composition to the patch at intervals to provide sustained dosages of the bioactive composition from the patch to the subject.
93. (Previously Presented) A method according to claim 92, wherein the intervals are preselected intervals.
94. (Previously Presented) A method according to claim 91 further comprising dispensing the bioactive composition from the dispenser to the patch when an amount of the bioactive composition in the patch falls below a desired level.
95. (Previously Presented) A method according to claim 91:
wherein said dispensing further comprises dispensing a second substance from the dispenser to the patch; and
the method further comprises mixing the bioactive composition with dispensing.
96. (Previously Presented) A method according to claim 95 wherein said mixing occurs between said orifice and said patch.
97. (Previously Presented) A method according to claim 95 wherein said mixing occurs within said patch.
98. (Currently Amended) A method according to 91 further comprising containing said bioactive composition a container portion of said ~~jet~~ inkjet dispenser prior to said dispensing.

Serial No.: 10/791,974
Art Unit: 3761

99. (Previously Presented) A method according to claim 98 further comprising refilling said container with said bioactive composition.

100. (Currently Amended) A method according to claim 99 further comprising removing said container from the ~~jet inkjet~~ dispenser prior to said refilling, and after said refilling, replacing said container for further dispensing.

101. (Canceled)

102. (Previously Presented) A method according to claim 83, wherein said dispensing comprises using a thermal droplet jet dispenser.

103. (Previously Presented) A method according to claim 83, wherein said dispensing comprises using a piezoelectric droplet jet dispenser.

104. (Previously Presented) A method according to claim 83, wherein said dispensing comprises using a silicon electrostatic actuated droplet jet dispenser.

105. (Currently Amended) A method according to claim 91, wherein said inkjet ~~technology~~ dispenser used in said dispensing comprises a thermal inkjet ~~technology~~ dispenser.

wherein dispensing the bioactive composition from the thermal inkjet dispenser
comprises

receiving the bioactive composition into a feed chamber from a reservoir in the
dispenser;

flowing the bioactive composition from the feed chamber into a vaporization
chamber in the dispenser;

energizing a firing resistor in the vaporization chamber; and
ejecting the bioactive composition as a droplet from the vaporization chamber.

Serial No.: 10/791,974

Art Unit: 3761

106. (Currently Amended) A method according to claim 91, wherein said inkjet ~~technology~~ dispenser used in said dispensing comprises a piezoelectric inkjet ~~technology~~ dispenser,
wherein dispensing the bioactive composition from the piezoelectric inkjet dispenser
comprises
recejving the bioactive composition into a piezoelectric chamber from a storage
chamber in the dispenser;
passing an electric current through a piezoelectric member in the chamber, thereby
expanding the piczoelectric member; and
expelling the bioactive composition as a droplet from the vaporization chamber.
107. (Currently Amended) A method according to claim 91, wherein said inkjet ~~technology~~ dispenser used in said dispensing comprises a silicon electrostatic actuated inkjet ~~teeknology~~
dispenser.
108. (Previously Presented) A method according to claim 83, further comprising:
optically reading subject identification information with an optical reading device of said
jet dispenser;
correlating said subject identification information with prescribed dosage information;
and
wherein said dispensing comprises dispensing the bioactive composition according to
said prescribed dosage information.
109. (Currently Amended) A method according to claim 91, further comprising:
optically reading subject identification information with an optical reading device of said
jet inkjet dispenser;
correlating said subject identification information with prescribed dosage information;
and
wherein said dispensing comprises dispensing the bioactive composition according to
said prescribed dosage information.

Serial No.: 10/791,974
Art Unit: 3761

110. – 117. (Canceled)

118. (Previously Presented) A method according to claim 83, further comprising:
monitoring a physical parameter of the subject; and
in response to said monitoring, adjusting said dispensing.

119. (Previously Presented) A method according to claim 118, wherein said physical
parameter comprises heartbeats.

120. (Previously Presented) A method according to claim 118, wherein said physical
parameter comprises breathing.

121. – 122. (Canceled)

123. (Previously Presented) A method according to claim 118, wherein said monitoring
comprises using a monitor portion of the jet dispenser.

124. (Previously Presented) A method according to claim 123, wherein said monitor portion
comprises a mechanical sensor.

125. (Previously Presented) A method according to claim 124, wherein said mechanical
sensor comprises an accelerometer.

126. (Previously Presented) A method according to claim 91, further comprising:
monitoring a physical parameter of the subject; and
in response to said monitoring, adjusting said dispensing.

127. (Previously Presented) A method according to claim 126, wherein said physical
parameter comprises heartbeats.

Serial No.: 10/791,974

Art Unit: 3761

128. (Previously Presented) A method according to claim 126, wherein said physical parameter comprises breathing.

129. – 130. (Canceled)

131. (Previously Presented) A method according to claim 126, wherein said monitoring comprises using a monitor portion of the jet dispenser.

132. (Previously Presented) A method according to claim 131, wherein said monitor portion comprises a mechanical sensor.

133. (Previously Presented) A method according to claim 132, wherein said mechanical sensor comprises an accelerometer.

134. (Withdrawn) A kit according to claim 80, further comprising a bioactive agent.

135. (Withdrawn) A kit according to claim 134, wherein said bioactive agent comprises a bioactive composition attracting agent selected from the group comprising a cream, a paste, or a salve.

136. (Previously Presented) A method according to claim 83, further comprising:
applying a bioactive composition attracting agent to a treatment location on the cutaneous surface of the subject;
pulling the bioactive composition toward said agent; and
penetrating said agent with the bioactive composition to treat the treatment location with the bioactive composition.

137. – 139. (Canceled)

Serial No.: 10/791,974
Art Unit: 3761

140. (Previously Presented) A method according to claim 83, further comprising manually triggering an activation device after said applying and before said dispensing, with said dispensing occurring in response to said triggering.
141. (Previously Presented) A method according to claim 91, further comprising manually triggering an activation device after said applying and before said dispensing, with said dispensing occurring in response to said triggering.
142. – 144. (Canceled)
145. (Withdrawn) A kit according to claim 55, wherein said container comprises a collapsible bladder, and said interface comprises tubing.
146. (Withdrawn) A kit according to claim 80, wherein said container comprises a collapsible bladder, and the kit further includes a fluid conduit to convey the bioactive composition from the bladder to the jet dispenser.
147. (Withdrawn) An applicator according to claim 146, wherein said fluid conduit comprises tubing.
148. (Previously Presented) A method according to claim 83, further comprising:
storing the bioactive composition in a collapsible bladder; and
conveying the bioactive composition from the collapsible bladder to the jet dispenser.
149. (Previously Presented) A method according to claim 148 wherein said conveying comprises conveying the bioactive composition through tubing.
150. (Currently Amended) A method according to claim 91, further comprising:
storing the bioactive composition in a collapsible bladder; and

Serial No.: 10/791,974
Art Unit: 3761

conveying the bioactive composition from the collapsible bladder to the jet inkjet
dispenser through tubing.

151. (Withdrawn) A kit according to claim 80, further comprising a spacer for positioning
between the orifice and the skin during ejection of the bioactive composition to the skin.

152. – 182. (Canceled)